Writing Effective Beamtime Proposals

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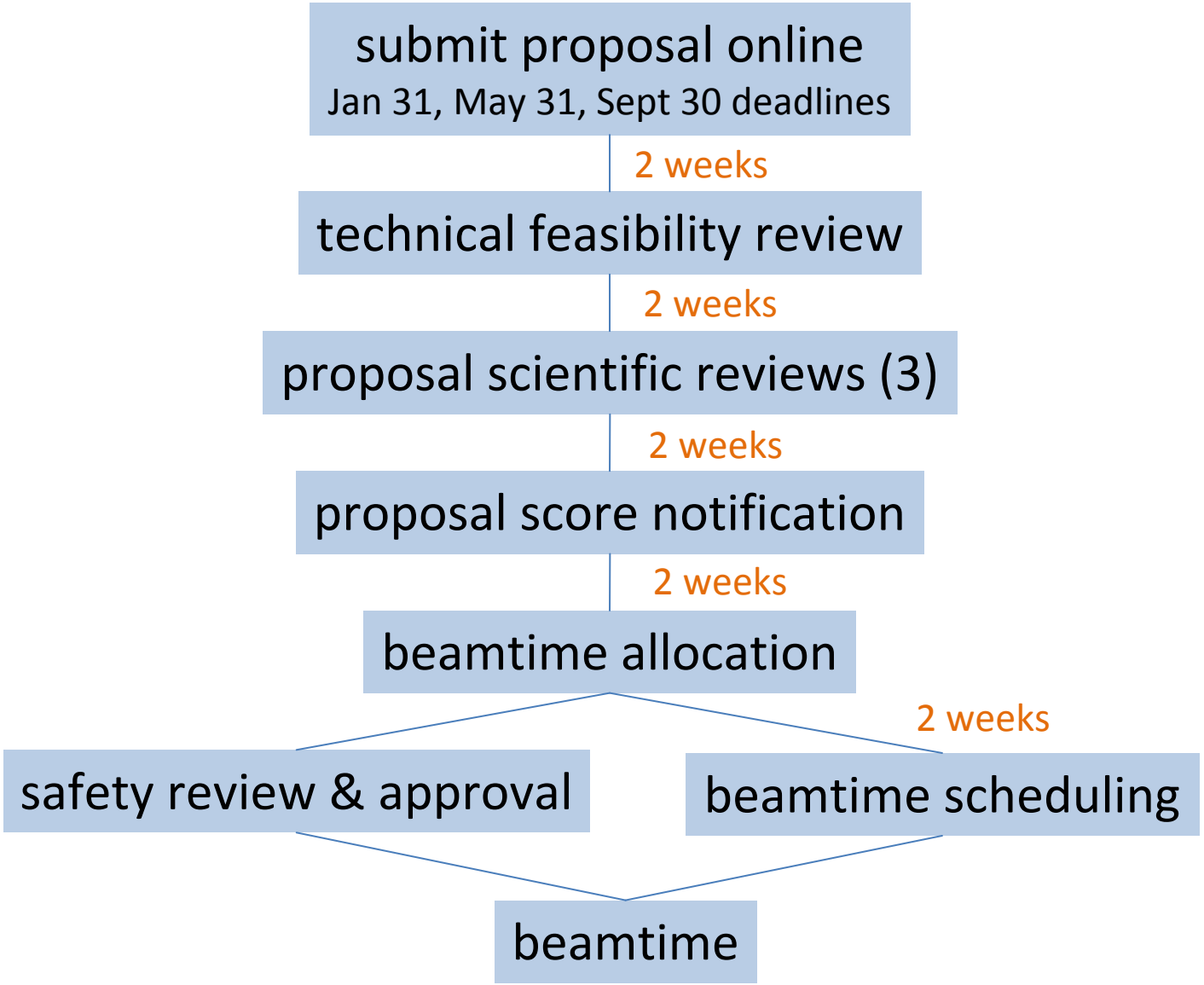
Proposal Submission Flowchart



Overview of the Proposal System

- 12 Proposal Review Panels (PRPs), categorized first by technique, then by broad science area.
  - Example: *Imaging & Microprobes: Biological & Environmental Sciences*
  - The propose reviewer will most likely only have a *general* knowledge of your specific sub-field.
- Each proposal is reviewed by 3 reviewers who provide a rating between 1 and 5 (1 high). An average proposal rating lower than ~2.5 is required for beam time. Proposals not allocated beam time get a 0.2 rating improvement for next request.
- Proposals can describe a single experiment or a set of experiments that span a period of up to 2 years (6 cycles). Beam Time Request is needed for each cycle.
- There are 3 beam time scheduling cycles.

6 weeks

Scheduling Cycle	Proposal Due Date	Beam Time Allocated
January-April 2007	September 30, 2006	November 11, 2006
May-August 2007	January 31, 2007	March 14, 2007
September-Dec. 2007	May 31, 2007	July 12, 2007

6 weeks

First Step

- Before submitting a proposal you should first identify the beamlines that can be used for your project and contact the Beamline Spokesperson for each beamline.
- Discuss with the Beamline Spokesperson –
  - Does the beamline meet the specifications required for your project?
  - Does your project require additional instrumentation or a non-standard beamline configuration? Can the instrumentation be supplied or the beamline reconfigured?
  - The amount of beam time that would be required to complete your project.
  - Can a preliminary feasibility check be made on your sample?

Title and Abstract

- The content of proposals is treated as confidential except for the proposal title and abstract. These are sometimes used in reports to funding agencies.
- Abstract should provide a brief overview of the project without revealing any experimental details that you want to keep private.

Scientific Importance of Proposed Experiment

- Background - provide sufficient background information so the reviewer, who may only have a general knowledge of your subfield, can understand the scientific issues that your project addresses.
- Impact - describe the expected scientific and/or technological and/or educational impact that your results will have.

Why is Synchrotron Radiation Required

- You need to convince the reviewer that your experiment could not be done on an in-house light source.
- Reasons might include:
  - Your experiment requires a unique property of synchrotron radiation such as, high brightness (small beam area), high flux (for weakly scattering samples), or energy tunability (for spectroscopic measurements).
  - Your experiment requires high through-put to characterize a large number of samples.

Describe Work Previously Done at a Synchrotron Facility

- Synchrotron experience is an important criteria used in rating proposals. The proposal reviewers are looking for evidence that you have the experience to carry out a successful experiment.
- New users – It's recommended that new synchrotron users initially collaborate with an experienced user. This mentoring relationship should be described in this section.

List of Three Publications to Assist in Proposal Review

- Reviewers are looking for evidence that your previous use of NSLS beam time resulted in high-impact publications.
- Reviewers are also looking for publications that establish your expertise in the topic of the proposed project.
- Include the title of the publication and a complete list of authors.
- It is best if the listed publications have appeared in print and are readily accessible electronically.

Research Description

- Provide an outline of what experiments you will be doing over (1) all the cycles of the project in moderate detail and (2) the next cycle in complete detail.
- This section serves two purposes:
  - Indicates to Reviewer the likelihood that your experiment will provide the information that you're anticipating and whether the proposed experiments justify the requested amount of beam time.
  - Indicates to the Beamline Local Contact what instrumentation and beamline configuration is needed for your run.
- The research that receives the highest ratings are ground-breaking experiments that do not give the impression of ill-defined 'fishing expeditions' or the next in a 'series' of similar measurements.
- Results using complementary techniques that can identify interesting regions of parameter space are crucial since beam time is limited.
- Figures, which often are more effective than words, should be added to the proposal in a PDF file.

Safety Approval Form

- Each proposal is accompanied by a Safety Approval Form (SAF). In the Safety Approval Form you describe any hazards associated with your proposed experiment (chemical, electrical, environmental). You also provide the names of all the experimenters involved with the project.
- Only a preliminary SAF is required at proposal submission; however, the SAF should be updated when beam time is allocated.
- The SAF is valid for 1 year.

Last Step

- Review by the beamline spokesperson: If you are a new synchrotron user, it is strongly suggested that you ask the beamline spokesperson to review and critique your proposal. But don't send it at the last minute; they get a lot of these requests!

Faculty-Student Research Support Program

ABOUT THE PROGRAM

The Faculty Student Research Support Program is designed to encourage new faculty/student research groups to BNL's National Synchrotron Light Source.

- Faculty/student groups that are new users to the NSLS (within 2 years) are eligible.
- Newly appointed assistant professors (within 2 years of faculty appointment) and their students are also eligible, even if they are current or past NSLS users.
- Faculty must be from a U.S. academic institution of higher education.
- The program covers expenses incurred during exploratory visits to the NSLS and while performing initial experiments. Expenses covered include travel, housing, per diem, and some incidental costs.

PARTICIPATION IN THE PROGRAM

- Based on scheduled General User beam time or PRT time.
- Reimbursement commitments are made for one scheduling cycle at a time.
- Maximum number of participants per request is one faculty member and two students/post docs.
- Faculty member must participate in beamtime with students/postdocs
- Participation in the program is limited to two consecutive years (up to 6 beamtime cycles).

APPLICATION DEADLINES

January – April: November 30; May – August: March 31; September – December: July 31

http://www.nsls.bnl.gov/users/fsrsp/